SAFETY INSTRUCTIONS AND OPERATORS MANUAL FOR DRILL WITH MAGNETIC BASE AND PNEUMATIC DRIVE

D1 AIR

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BEFORE YOU START WORK WITH THE MACHINE,
PLEASE READ THESE INSTRUCTIONS CAREFULLY
AND USE ALL RECOMMENDATIONS.

1. GENERAL INFORMATION

Due to its properties and capabilities of drilling large openings, this drill is perfect for use on any construction site and industrial installations where electric appliances are prohibited for safety reasons, and the dimensions and character of the metal to be drilled make it impossible for it to be transported to another location.

Using the drill **D1 AIR** with magnetic base and special milling cutters gives the ability to drill holes with diameters up to 1-3/8” (35 mm) and a depth of 1” (25 mm) with a precision previously attainable only in a workshop.

The magnetic base of the drill ensures the solid attachment of the machine to steel pieces with enough force to guarantee the safe and proper functioning of the drill as well as providing for the operator’s safety. This method of attaching the machine makes it possible to drill holes in many different positions, for example, on vertical pillars, overhead steel structures and ceilings, bridges and other hard to reach places. In these cases, despite the considerable force of the magnet, all drills produced by STEELMAX must be secured using safety belts or chains included with the equipment. This action eliminates the potential risk in the case of an air pressure loss or drop.

The compressed-air motor used in the D1 AIR drill is certified ATEX II2 G/D C IIC T6;T4 and meets the requirements for use in areas with a risk of explosion.

2. GENERAL SAFETY ADVICE

The drill should never be used when:

1. The operator has not become familiar with the user's manual and has not been trained in industrial safety.
2. The machine is to be used for purposes that are not appropriate as stated in the user's manual or by other safety regulations or procedures.
3. The drill is not complete or parts used in its repair are not original.
4. The air parameters are not consistent with those given on the rating plate.
5. The operator has not checked the condition of the machine before beginning its operation, especially the condition of the air line, positions of levers and cutting tools.
6. The machine is not secured with a chain, especially during operation at a height and in inverted positions.
7. Other people are in the immediate vicinity of the work area.

Please retain all recommendations.

Detailed safety instructions for use of the drill on a magnetic base:

1) Check the state of the air lines and connections before beginning operation of the machine.
2) Make sure the drill is powered by cleaned and oiled air.
3) Do not allow the drill to be submerged in water, and after use, do not leave in places where it could be exposed to corrosion, sea water, precipitation, etc.
4) Do not attach the machine to surfaces that are corroded, covered with a thick layer of paint, uneven, or whippy.
5) Always use the chain or the safety belt.
6) Always wear safety goggles and ear protectors while drilling.
7) Do not remove shavings formed during drilling by hand without gloves.
8) Do not touch the spindle or drilling tools while they are in motion.
9) Drilling tools must be affixed in a stable fashion. If the annular cutter is being used, the securing screws should be checked for tightness.
10) Do not allow the use of dull or damaged drilling tools.
11) Do not use cutters without pilot pins or arbors without springs.
12) Only use tools recommended by the manufacturer.

13) Remove all metal shavings from the drill after it has finished running.
14) Always disconnect air while replacing milling cutters and during any type of repair or maintenance actions

The adhesive force on thin elements (under 10 mm) rapidly declines and work on such surface thicknesses is not recommended! The machine must be mounted on the material being drilled with the whole surface of its base! The surface of the drilled piece should be sanded using coarse-grained sandpaper before each attachment.

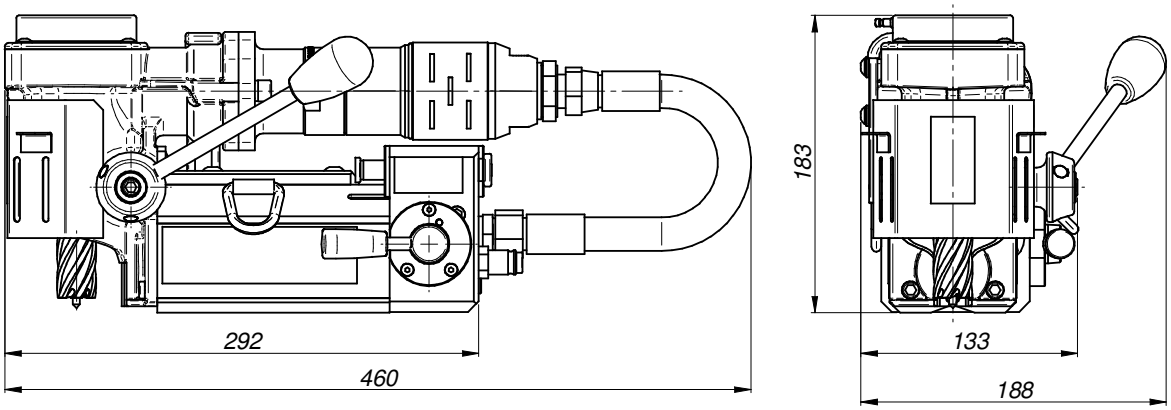
ATTENTION: Never use the flexible hose as a lifting handle!

3. STANDARD ACCESSORIES

D1 AIR comes in a standard equipment set which consists of:

• metal box	-1 pc
• drill	-1 pc
• allen key S=4	-1 pc
• allen key S=5	-1 pc
• cooling system	-1 pc
• handle assy	-1 pc
• pilot pin	-1 pc
• safety chain	-1 pc
• instruction manual	-1 pc

4. TECHNICAL DATA



Operating pressure	90 PSI (630 kpa)
Air consumption	50 CFM (1400 l/min) 369.84 gal/min (218.72 yd/min)
Motor power	800 W
Tool holder	3/4” Weldon /19.05 mm/
Hole capacity with milling cutter	1-3/8” (35mm)
Maximum drilling depth	1” (25mm)
Stroke	1-9/16” (39mm)
Magnet force [25mm, Ra=1,25]	6,500 N
Free speed	500 rpm
Load speed	240 rpm
Magnetic base	7-1/16 x 3-1/8 x 1-7/16” (180 x 80 x 36.5 mm)
Weight	28 lbs 1 oz (13kg)
Noise level	above 70 dB
Working temperature range	-20°C /+ 40°C

5. START UP AND OPERATION

5.1 Operation of the milling cutter.

The drill's spindle has a socket with a Weldon ¾" (19 mm) shank.

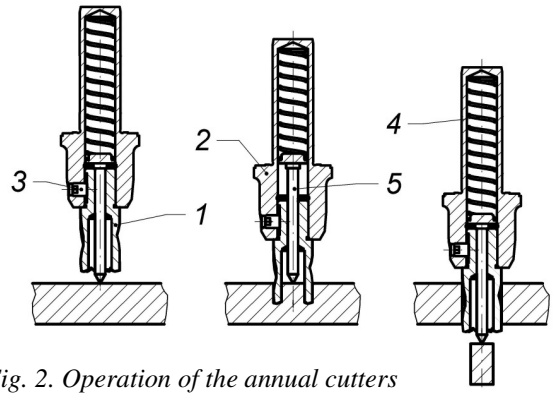


Fig. 2. Operation of the annual cutters

Milling cutter (1) is secured by screws (3) and is mounted in the spindle (2). Insure that the flats on the cutter line up with the fastening screws and that both screws are tight.

A pilot pin (5) is located inside the milling cutter. This aligning pin facilitates the correct positioning of the drilling axis. As the milling cutter sinks into the material during the drilling, the pilot pin draws back to the inside of the fixture, compressing the spring (4). The spring causes the core formed during the drilling to be pushed out once the milling cutter cuts through the entire thickness of the material.

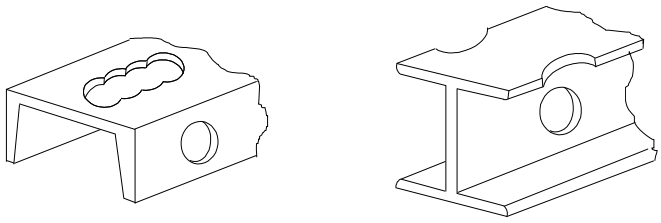


Fig. 3 Holes that are possible to make using the annular cutter

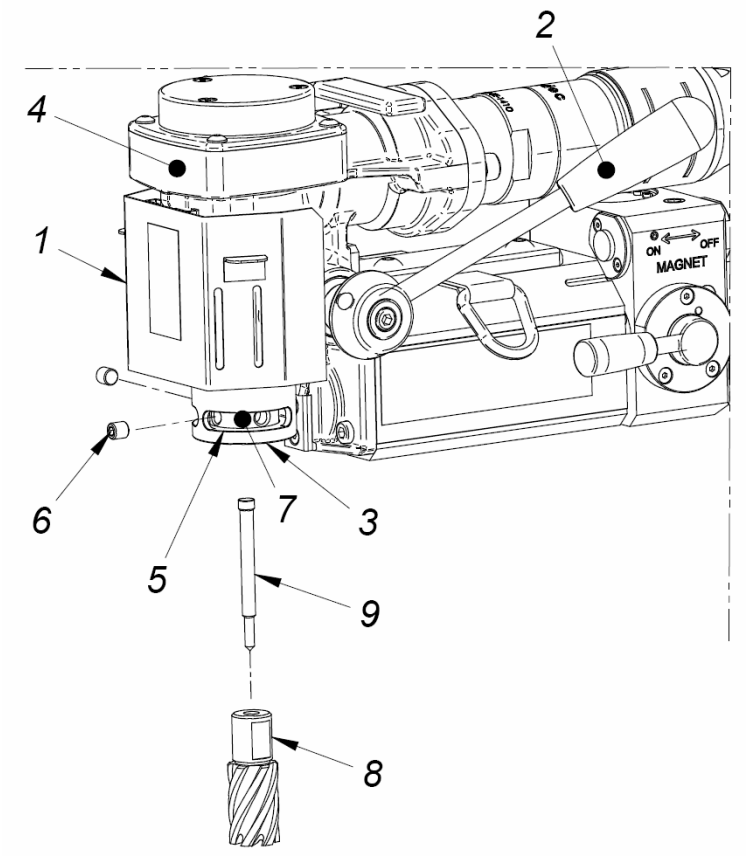
Basically milling cutters are designed to make through holes. The only exception to using the pilot pin is when performing blind holes.

5.1.1 Installing and uninstalling the milling cutter

⚠ Milling cutter installation and uninstallation should be carried out when the machine is turned off!

<u>Installing</u> the milling cutter:

1) Raise the guard (1) to the maximum;
2) Slide out the quill assembly (3) from the drill main body (4) by using the lever (2), to get access to the screws (6) of the spindle (7) through the holes (5) in the quill assembly (3);
3) Insert the appropriate type of pilot (9) into the milling cutter (8);
4) Position the milling cutter (8) with the cutter facing up, so that the flat sides of the milling cutter are aligned with the screws (6);
5) Put the milling cutter (8) into the spindle socket (7);
6) Tighten the screws securely (6).



<u>Uninstalling</u> the milling cutter:

1) Raise the guard (1) to the maximum;
2) Slide out the quill assembly (3) from the drill main body (4) by using the lever (2), to get access to the screws (6) of the spindle (7) through the holes (5) in the quill assembly (3);
3) Loosen the screws (6);
4) Remove the milling cutter (8) and the pilot (9) from the spindle socket (7).

5.2 Operate

The drill is provided to the client in a metal box along with the complete standard equipment. Verify that the parts in the packaging correspond with the specifications found in this user's manual – see point 3. Steel elements coated with a layer of lubricant for the period of storage and transport must be cleaned prior to their usage.

The magnet (**MAGNET**) switch and the motor connection lever (**MOTOR**) are part of the control elements. The location of these elements is shown on fig.4.

In order to start the machine:

- turn the magnet switch to the ON position. Prior to this, make sure that the motor connection lever is in the OFF position.
- turn the motor connection lever to the ON position.
- turning the motor connection lever to the OFF position will cause the motor to stop running. The magnetic base will still be on.
- in order to change the drilling location, the magnet switch should be set to the OFF position after the drive has been stopped.

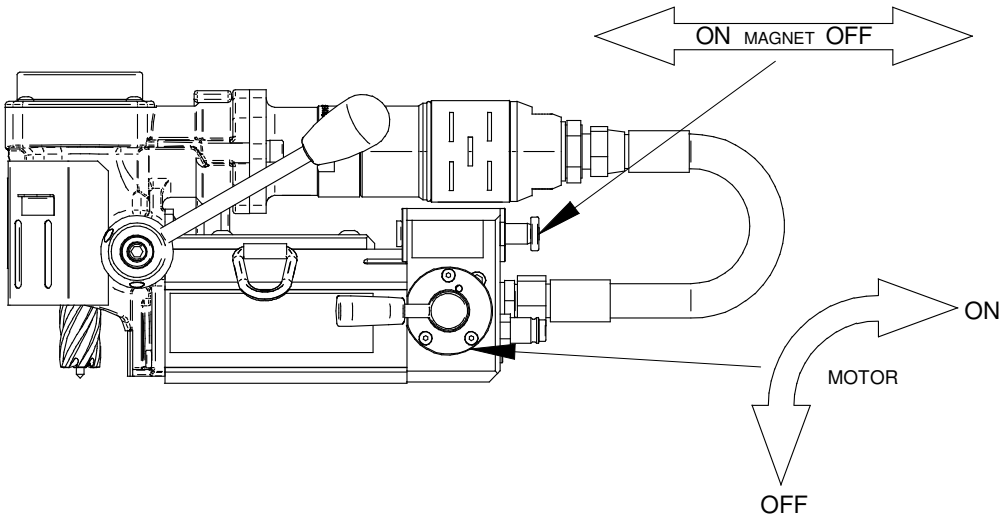


Fig. 4 Drill control elements

ATTENTION: READ THESE INSTRUCTIONS FOR USE CAREFULLY BEFORE USING THIS APPLIANCE

Before placing the machine on workplace verify that:

- the surface is steel and ferromagnetic (certain types of stainless or acid resistant steel don't conduct magnetic flux);
- the surface has a thickness of at least 10 mm;
- the surface is flat;
- the surface is clean with no rust or a layer of paint that could cause a decrease in the adhesive force of the magnetic base;

5.3 Preparing the machine for drilling

5.3.1 Make sure the motor connection lever is in the OFF position!

5.3.2 Securely and surely fasten the cutter (see point 5). To do this, place the drill on its side and loosen two set screws on the spindle. Place the bit in the spindle socket so that the two flat surfaces on the shank are lined up with the set screws. Fasten and tighten the screws. Make sure the pilot pin can be easily shifted in the cutter.

The D1 AIR drill is adapted for drilling with annular cutters with a maximum drilling depth of 1 " (25 mm) and such bits should be employed.

5.3.3 Clean the bottom surface of the magnet and the surface of the element that is to be drilled of shavings and other grime. Place the drill on the work location.

5.3.4 Place the spindle's axis directly above the drilling location (the pilot pin makes this easier when using the cutter).

5.3.5 Safeguard the drill using the safety chain, looping the chain through the safety link and fastening it to the element being worked on or any other dependable place.

5.3.6 Connect air line with the proper parameters (90 PSI (630 kpa), 50 CFM (1400 l/min)).

5.4 Drilling.

5.4.1 Turn on the magnet using the MAGNET switch. Make sure the magnet is fixed securely and reliably.

5.4.2 Fill the container of the cooling system with cutting-tool lubricant. Supply coolant to drilling hole. In order to do this, the coolant container's lever must be pressed several times to produce pressure inside container and feed to the spindle must be decreased in order to allow the pilot pin located inside the cutter drill to retract slightly. Coolant will spread through the system and will start leaking out of the center of the cutter momentarily.

ATTENTION: The cutting tool lubricant is fed under pressure, which makes it possible to use the cooling system when the drill is in a non-horizontal position.

5.4.3 Turn on the motor using the motor connection lever. The motor will not activate if the magnet is not turned on.

5.4.4 Bring the tool closer to the drilling surface by turning the levers and carefully start drilling. Increase the pressure on the lever until the attaining the desired air motor load and keep pressure steady while drilling.

5.4.5 When the cutter completes the drilling of a hole, the core is pushed out of the tool with significant force. Be careful to keep body parts and other equipment away avoid damage from the core ejection. Withdraw the tool from the material after completing a hole.

5.4.6 Stop the motor, and turn off the magnetic base.

5.4.7 After the machine ends its operation, it should be disconnected from the air line and cleaned of shavings and the remainder of the coolant.

6. MAINTENANCE AND SERVICE

During all maintenance, repair or inspection activities the appliance must be disconnected from the air line!

6.1 Regularly grease the pinion and the teeth on the sleeve.

6.2 All component parts should be cleaned and maintained with a thin oil film.

6.3 Use only clean, detergent-free oil with a density compliant with SAE 10 (90SSU) or lower.

6.4 When working with a pneumatic motor, it is necessary to use an air preparation unit.

ATTENTION: The pneumatic motor's guarantee is invalid when damages arise from pollution in the air feed or lack of lubrication.

6.5 Lubrication of the pneumatic motor.

6.5.1 Direct servicing is not necessary when drill usage is normal.

6.5.2 It is necessary to use an air preparation unit in the air feed system.

6.5.3 Inspections and servicing of the air preparation unit should be carried out as needed depending on the air pollution level. Clean the filter, dry out the dehydrator, and maintain an oil level with drips every 2-5 seconds.

6.5.4 Oil used in the air preparation unit must have an ignition temperature higher than 260℃.

6.6 Any type of mechanical repair of the drill should be done at a service workshop recommended by the vendor. When repairing use only original parts.

ATTENTION: The D1 AIR drill is adapted for powered by air with working pressure 60 to 90 PSI (420 to 630 kpa). Maintenance of the machine's technical parameters and its general state are strictly dependent on the cleanness and preparation of the air and proper servicing.

7. EC DECLARATION OF CONFORMITY

Declaration of Conformity

We

PROMOTECH Ltd.
Elewatorska street 23/1
15-620 Bialystok, Poland

declare with full responsibility that product:

Drill with magnetic base and pneumatic drive
D1 AIR

which the declaration applies to is in accordance with the following safety regulations of guideline: 2006/42/EC.

Białystok, 2009-10-13

_____
Chairman

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8. MACHINE TEST CERTIFICATE

MACHINE CONTROL CARD

Pneumatically driven drill D1 AIR with magnetic base

Serial number _____

Spindle lateral whip _____

Perpendicularity of spindle motion relative to base _____

Perpendicularity of spindle axis relative to base _____

Base adhesive strength _____
(surface with a min. thickness of 22 mm and smoothness less than 1.25)

Machine examined by _____

Quality Control:. _____

9. WARRANTY CARD

1.Steelmax in the name of Manufacturer warrants the Drilling Machine to be free of defects in material and workmanship under normal use for a period of 12 months from date of sold.

2. The buyer voids the guarantee or warranty in the event of:
- removal of the guarantee seals;
- unauthorized repairs or modification;
- usage of the machine for purposes not specified in the user's manual;
- usage of inappropriate tools or other materials not specified in the user's manual;
the occurrence of damages caused by reasons other than flaws of the materials or improper installation.

3. The guarantor is obligated to carry out repairs concerning the guarantee within 14 days of the delivery of the machine to the point of service. This time is increased to 21 days if the machine is sent by mail.
In the event of damage to the power feed, time for repair is increased to 30 days.

4. The guarantee or warranty does not include: safety fuses, cutting tools, the machine's standard equipment, power feed brushes, or damage arising from the normal wear of the machine (for example scratches on the adhesive side of the base).

5. Machines not packed in their original packaging or other suitable packaging will not be accepted for repairs concerning the guarantee, and after the period, the vendor does not take responsibility for any damage to the machine arising from shipping to and from the service point.

Date of Production:……..Factory No. : ….....

Quality Control:……

Date of sale:…….

Vendor Signature and Stamp:……